



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/596,556	06/19/2000	John Petter Fjeldstad	1380-0148	4133
2292	7590	12/17/2003		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER ANGEBRANNDT, MARTIN J	
			ART UNIT	PAPER NUMBER

1756

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/596,556

Applicant(s)

FJELDSTAD ET AL.

Examiner

Martin J Angebranndt

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-12 and 18-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-12 and 18-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1756

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-17,19-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, "buthylglydedil" should read - - butylglycidyl - -.

3. Claim 29 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

The independent claim 18, already limits the starting temperature to 36 degrees C.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1756

6. Claims 3,4,6,7,20,21 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Fjeldstad et al. '851.

See example 1 in columns 8-9. The examiner holds that "about 5%" and "about 4%" are met by any values within the ranges 3-5% and 1-5% respectively, as the breadth of coverage added by the inclusion of the term "about" is not specifically disclosed in the specification. The balance is the N-epoxypropylcarbazole with 5 wt % butylglycidyl ether. See also claim 6 and the text describing the results shown in figure 3. (9/11-40, particularly 9/35-40).

The examiner notes that less than 5% appears to be specifically desirable in the instant claims as 92% + 5% + 4% yield 101%. The examiner assumes that the heating commences at room temperature 25 degree C (standard temperature).

7. Claims 2-9,11,12 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjeldstad et al. '851, in view of **any of** Panasyuk et al., "Some characteristics of relief formation on photothermoplastic carriers used in double exposure interferometry", Technical Physics, Vol. 42(8) pp 923-925 (08/1997), Panasyuk et al., "Processes of double-exposure interferogram formation on deformed surface of photothermoplastic media", SPIE Vol. 2851 pp. 150-157, Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) **or** Bazhenov et al., 'Real-time Holographic camera system', SPIE 3011. pp 348-353 (1997).

Panasyuk et al., "Some characteristics of relief formation on photothermoplastic carriers used in double exposure interferometry", Technical Physics, Vol. 42(8) pp 923-925 (08/1997) teach double exposure processes using photothermoplastic holographic recording media to

Art Unit: 1756

evaluate a test object's response to a stress. (page 923/left column). The recording of a second hologram with the reconstruction of the first hologram is disclosed (pages 924-925).

Panasyuk et al., "Processes of double-exposure interferogram formation on deformed surface of photothermoplastic media", SPIE Vol. 2851 pp. 150-157 teach double exposure processes using photothermoplastic holographic recording media to evaluate a test object's response to a stress. (page 152). The recording of a second hologram with the reconstruction of the first hologram is disclosed (pages 154-155).

Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) teach recording the first hologram, a pause, erasure, a second exposure and simultaneous development of the two holograms. (page 87)

Bazhenov et al., 'Real-time Holographic camera system', SPIE 3011. pp 348-353 (1997) teach recording two or more holograms using multiple exposure interferometry. (page 350). The use of gradient heating is disclosed. ("temperature rate", page 350).

It would have been obvious to modify the invention of Fjeldstad et al. '851 by recording plural hologram using double exposure techniques, such as those disclosed by **any of** Panasyuk et al., "Some characteristics of relief formation on photothermoplastic carriers used in double exposure interferometry", Technical Physics, Vol. 42(8) pp 923-925 (08/1997), Panasyuk et al., "Processes of double-exposure interferogram formation on deformed surface of photothermoplastic media", SPIE Vol. 2851 pp. 150-157, Okushko et al., "Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) or Bazhenov et al., 'Real-time Holographic camera

Art Unit: 1756

system', SPIE 3011. pp 348-353 (1997) to gain the advantage of being able to view the stresses of a test object or hold more information due to two holograms being present, rather than just one (multiplexed information).

8. Claims 3,4,6,7,18-21,24,29-32 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjeldstad et al. '851, in view of Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 and Levy et al. '321.

Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 teaches the thermodevelopment process is specific to the medium and that the thermomechanical curve and the Tg of the material determine the heating rate.

Levy et al. '321 teach thermal development where the softenable material is heated to 60-130 degrees C. (11/47-12/6).

It would have been obvious to one skilled in the art to modify the invention of Fjeldstad et al. '851 by using ramp heating and starting at any temperature below the Tg of the recording material, including 36 degrees C based upon the teachings of Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 and Levy et al. '321 with a reasonable expectation of developing the latent image of the hologram. There is no evidence that the starting point of the development is critical, although the exact range of the heating might be.

9. Claims 2-12 and 18-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjeldstad et al. '851, in view of Cherkasov et al., "Photothermoplastics for spectral holography", Opt & Laser Technol. Vol. 28(4) pp. 219-293 and Levy et al. '321 combined with **any of** Panasyuk et al., "Some characteristics of relief formation on photothermoplastic carriers used in

Art Unit: 1756

double exposure interferometry”, Technical Physics, Vol. 42(8) pp 923-925 (08/1997), Panasyuk et al., “Processes of double-exposure interferogram formation on deformed surface of photothermoplastic media”, SPIE Vol. 2851 pp. 150-157, Okushko et al., “Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) or Bazhenov et al., ‘Real-time Holographic camera system’, SPIE 3011. pp 348-353 (1997)

In addition to the basis provided above, it would have been obvious to modify the invention of Fjeldstad et al. ‘851 combined with Cherkasov et al., “Photothermoplastics for spectral holography”, Opt & Laser Technol. Vol. 28(4) pp. 219-293 and Levy et al. ‘321 by recording plural hologram using double exposure techniques, such as those disclosed by **any of** Panasyuk et al., “Some characteristics of relief formation on photothermoplastic carriers used in double exposure interferometry”, Technical Physics, Vol. 42(8) pp 923-925 (08/1997), Panasyuk et al., “Processes of double-exposure interferogram formation on deformed surface of photothermoplastic media”, SPIE Vol. 2851 pp. 150-157, Okushko et al., “Recording of double-exposure holographic interferograms on photothermoplastic materials using residual memory. Avtometriya, Vol. 4, pp 86-90 (1994) or Bazhenov et al., ‘Real-time Holographic camera system’, SPIE 3011. pp 348-353 (1997) to gain the advantage of being able to view the stresses of a test object or hold more information due to two holograms being present, rather than just one (multiplexed information).

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

Art Unit: 1756

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 3,4,6,7,20,21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-6 and 12-14 of U.S. Patent No. 6,558,851. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims seek coverage for the same subject matter, specifically N-epoxypropylcarbazole with 5 wt % butylglycidyl ether media sensitized with MDOSTFC and H-DDFC.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9309 for regular communications and 703-872-9309 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Application/Control Number: 09/596,556

Art Unit: 1756

Page 8



Martin J. Angebranndt
Primary Examiner
Art Unit 1756

December 9, 2003